

Status of E-906/SeaQuest

– an unpolarized fixed-target Drell-Yan experiment



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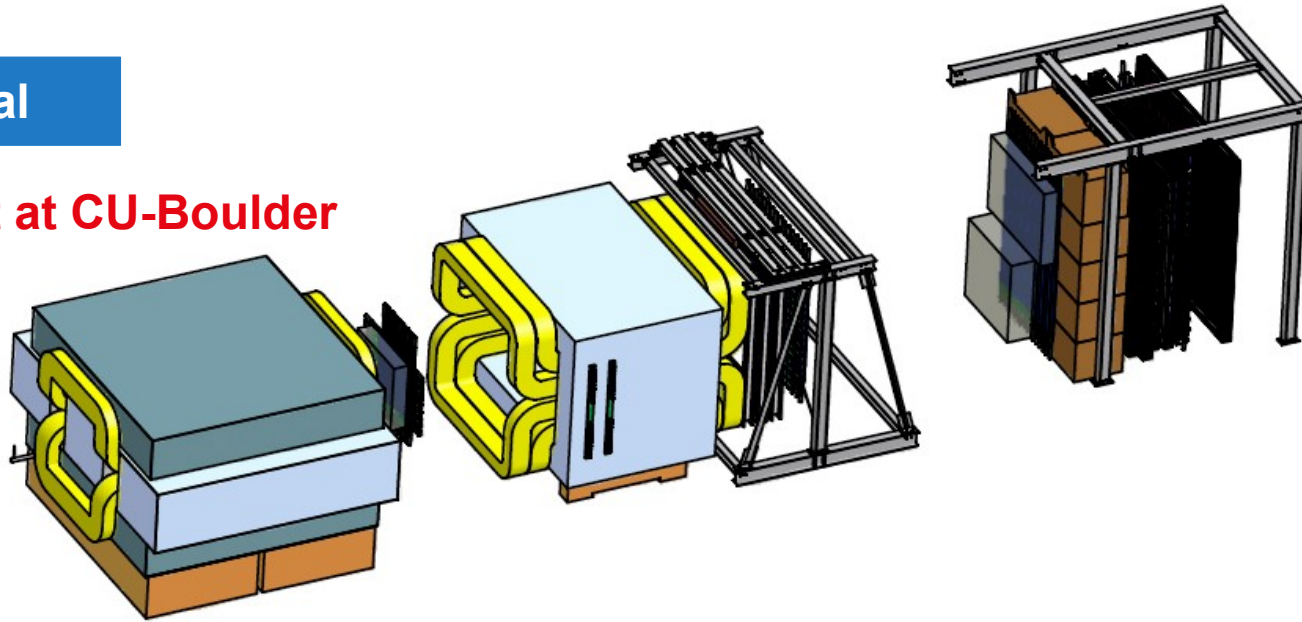
Beam Status

- AD will address two known problems in spill structure:
- **slow component of 360Hz:**
 - add a 360Hz driver, attempt to cancel the noise term
 - time estimate: ~ 6-8 weeks
- **fast component:**
 - increase the longitudinal emittance of the beam
 - first step resulted in a factor of 2 improvement
→ duty factor up to 30%
 - time estimate: ~ 2 weeks

Spectrometer Status and Plans

Operational

new D1 built at CU-Boulder



Target

first pass of target position calibration completed

Magnets

FMAG (2000A) and KMAG (1600A) operational, no cooling problems, implemented beam inhibit for FMAG current

Hodoscopes

MIPP studied, calibrated H1 – H4 in HV scans, established trigger timing

Drift Chambers

chamber plateauing completed, repair of D1X and D2U during open access on Tuesday and Wednesday

DAQ

continuous data taking, stable operation at low and high rates

Trigger status

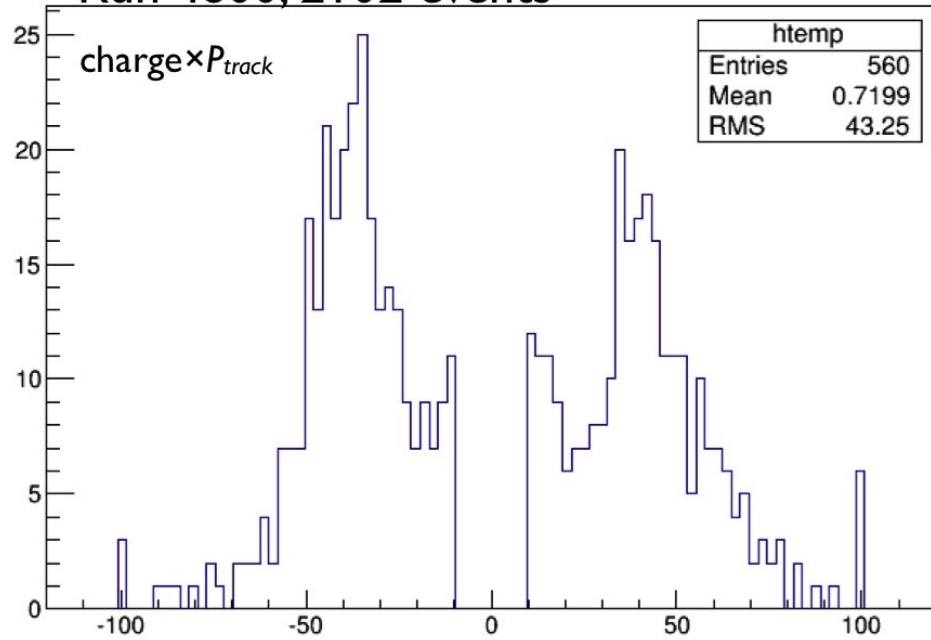
- road pulser tests of **trigger firmware**: 100.0% purity and 100.0% efficiency
- **trigger road selection** optimized in full Geant MC simulations for:
 - good DAQ livetime
 - good acceptance rate of Drell-Yan events
- **extensive study of trigger rates** from data:
 - Drell-Yan events (TB/BT topology) from the **beam dump** (no target)

trigger rates / spill before inhibit after inhibit accepted	inhibit threshold for each turn (in ~ protons per RF bucket)		
	24576	52429	78643
	74491	77854	40844
	19	162	617
	18	140	270
dead time	5.2%	13.5%	56.2%

- dead time depends on time to read out an event ($\sim 100\mu\text{s}$)
- but currently depends primarily on **beam structure** (good events appear to be grouped)

First Track reconstruction

Run 4800, 2102 events



Run 4803, 8188 events

